

ABSTRACT

A two-part metal protection composition includes: an aqueous metal treatment conversion coating component that includes an admixture of an acid and a coating forming component; and an aqueous protective coating component that is applied over metal treated with the aqueous metal treatment conversion coating component and includes an admixture of a blister suppressing agent and an organic film forming protective component. The aqueous metal treatment conversion coating component may contain an accelerator, such as hydroxylamine. In a preferred embodiment, the blister suppressing agent is an organic oxidizing agent that includes one or more of nitroguanidine; aromatic nitrosulfonates, Naphthol Yellow S; and picric acid (trinitrophenol). A method for treating a metallic surface includes: (a) applying an aqueous metal treatment conversion coating component described above; and (b) applying an aqueous protective coating component, described above, to the surface that has at least been partially treated with the aqueous metal treatment conversion coating component. A method for bonding an elastomeric substrate surface to a metallic substrate surface includes: (a) applying an aqueous metal treatment conversion coating component, described above, to the surface; (b) applying an aqueous coating or primer composition, described above, to the surface that has at least been partially treated with the aqueous metal treatment conversion coating component; and (c) applying an adhesive overcoat to effect bonding of the metallic substrate to the elastomeric substrate.